**Fermat’s Room Puzzles Name:**

1. The classic Martin Gardner riddle: What is special about the number 8,549,176,320?
2. A wolf, a sheep and a cabbage need to cross the river. How can the shepherd bring them across, one by one, without the sheep eating the cabbage, nor the wolf eating the sheep?
3. You have three opaque boxes. One box contains chocolate candies, another contains mint candies, and the last box contains a mixture of chocolate and mint. The boxes are labeled Chocolate, Mint and Mixed. None of the boxes are labeled correctly. You can take one candy out of each box (without looking directly into the box) and see what you get. What is the minimum number of boxes you have to open (and take one candy out) to assign correct labels to all boxes?
4. There are three switches outside a room. One of them controls a light bulb that’s inside the room, while the other two are not connected to anything. You can turn the switches ‘on’ or ‘off’ and also enter the room to see the light bulb. What is the fewest number of times you will need to enter the room to determine which switch is connected to the bulb? (You can’t see if the light bulb is ‘on’ or ‘off’ from the outside. And all switches are in the ‘off’ position when you start.)
5. Using a 4 minute hourglass and a 7 minute hourglass how would you measure exactly 9 minutes?
6. A student asks his professor: “What are the ages of your three children?” The professor replies: “If you multiply their ages you get 36, and if you add them you get my house number.” “I know your house number, but that’s not enough information!” says the student. To that the professor answered: “True. The oldest lives upstairs.” What are the ages of the three children?
7. In the False land, all the inhabitants always lie. In the True land, all the inhabitants always tell the truth. A stranger is trapped in a room that has two doors. One door leads to freedom, the other does not. The doors are guarded by a jailer from the False land and by another from the True land. To find the door to freedom, the stranger only can ask one question to one of the jailers, but he does not know which is from the True land. What question did he ask to save himself?
8. A mother is 21 years older than her son. In exactly 6 years, the son will be one-fifth his mother’s age. The question is: what is the father doing *right now*?